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动物分类学报

A NEW SPECIES OF THE GENUS *CHEIRODES* GENÉ FROM ALXA PLATEAU (COLEOPTERA, TENEBRIONIDAE, MELANIMINI)

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Abstract A new species, *Cheirodes* (*Pseuduademia*) *scalarithoracus* sp. nov., collected from Alxa, Inner Mongolia of China, is described and illustrated. The type specimens are deposited in the Museum of Hebei University.

Key words Coleoptera, Tenebrionidae, Melanimini, *Cheirodes*, new species, China.

The genus *Cheirodse* Gené, 1839 belongs to subfamily Opatrinae of family Tenebrionidae (Iwan, 2004). The genus name had been worldwide used as *Anemia* Laporte de *Castelnau*, 1840 for a long time, until Psilman verified it as the synonym of Cheirodse Gené, 1839 in 1973. The recorded 4 species in China of this genus previously used the former scientific name. This genus may be distinguished by the following combination of characters: deeply notched on the anterior margin of the clypeus; compound eyes deeply divided into upper and lower parts by the cheek; antennae short in 10th and 11th segments, with indistinctive spherical apex composed of 3 - 5 segments; lateral margins of pronotum finely bordered; elytra without striae or row of granules; epipleura reaching sutural angle of elytra and boundaries not obvious in anterior part; pronotum and lateral margins of elytra with long cilia; outer margin of tibiae with 2 coarse teeth (end tooth and median tooth), but the end tooth of mesotibiae and metatibiae divided in apex.

About 25 species belonging to 6 subgenera in this genus have been known (Ruts, 2004). They are widely distributed in Europe (The most northern reach to France) (Soldati & Guerin, 2006, 2008), Africa, Caucasus of Russia, Kazakhstan, Central Asia, South Mongolia (Medvedev, 1991), Northwest China (Ren, 1999), South Asia, Pakistan, India, Sri Lanka, Australia (Ardoin, 1971), only 1 species in Northern America (Psilman, 1971). 4 species of 2 subgenera of this genus have been known in China, *Cheirodes* (*Cheirodes*) Gené, 1839 and *Cheirodes* (*Pseudanemia*) Wollaston, 1864. Two species of the former are *Cheirodes* (*Cheirodes*) *dentipes* (Ballion, 1878) and *Cheirodes* (*Cheirodes*) *sinuatifrons* (Reitter, 1887), which are both distributed in Xinjiang; while 2 species of the latter are *Cheirodes* (*Pseudanemia*) *brevicollis* (Wollaston, 1864) and *Cheirodes* (*Pseudanemia*) *zhengi* (Ren & Yu, 1994), which are distributed respectively in the northern part of Xinjiang and Ningxia. A new species was discovered after the examination of the specimens from Alxa Badan Jaran Desert of Inner Mongolia. So far there are 5 species of this genus known in China.

From the existing distribution of the known species we can see that this genus is distributed in the western desert and semi desert areas of the Mongolia-Xinjiang Region of China. The type specimens of the new species are deposited in the Museum of Hebei University.

1 List of Known Species of Genus *Cheirodes* in China

***Cheirodes* (*Cheirodes*) *dentipes* (Ballion, 1878)**

Microzoum dentipes Ballion, 1878: 332. Type locality: Korla, Xinjiang, China.
Anemia reichardti Kontkanen, 1956: 57.
Cheirodes (*Cheirodes*) *dentipes* (Ballion, 1878): Iwan *et al.*, 2008: 257.

Distribution. China (Xinjiang); Mongolia, Kazakhstan, Uzbekistan, Turkmenistan, Afghanistan, Saudi Arabia, Azerbaijian, Iran.

***Cheirodes* (*Cheirodes*) *sinuatifrons* (Reitter, 1887)**

Anemia sinuatifrons Reitter, 1887: 389. Type locality: Xinjiang, China.
Cheirodes (*Cheirodes*) *sinuatifrons* (Reitter, 1887): Iwan *et al.*, 2008: 257.

Distribution. China (Xinjiang).

***Cheirodes* (*Pseudanemia*) *brevicollis* (Wollaston, 1864)**

Anemia brevicollis Wollaston, 1864: 493. Type locality: Lanzarote, Canary Islands, Spain.
Anemia aphodioides Walker, 1871: 16.
Anemia curticollis Pic, 1923: 5.
Anemia fausti Solsky, 1881: 52.
Anemia hauseri Reitter, 1894: 50.
Anemia pharao Reitter, 1897: 43.
Anemia rotundicollis Desbrochers des Loges, 1881: 126.
Cheirodes (*Pseudanemia*) *brevicollis* (Wollaston, 1864): Iwan *et al.*, 2008: 257.

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Distribution. China (Xinjiang); Italy, Malta, Spain, Algeria, Egypt, Yemen, Africa, Afghanistan, Bahrain, Iran, Israel, Iraq, Jordan, Kazakhstan, Mongolia, Oman, Pakistan, Saudi Arabia, Turkmenistan, Uzbekistan.

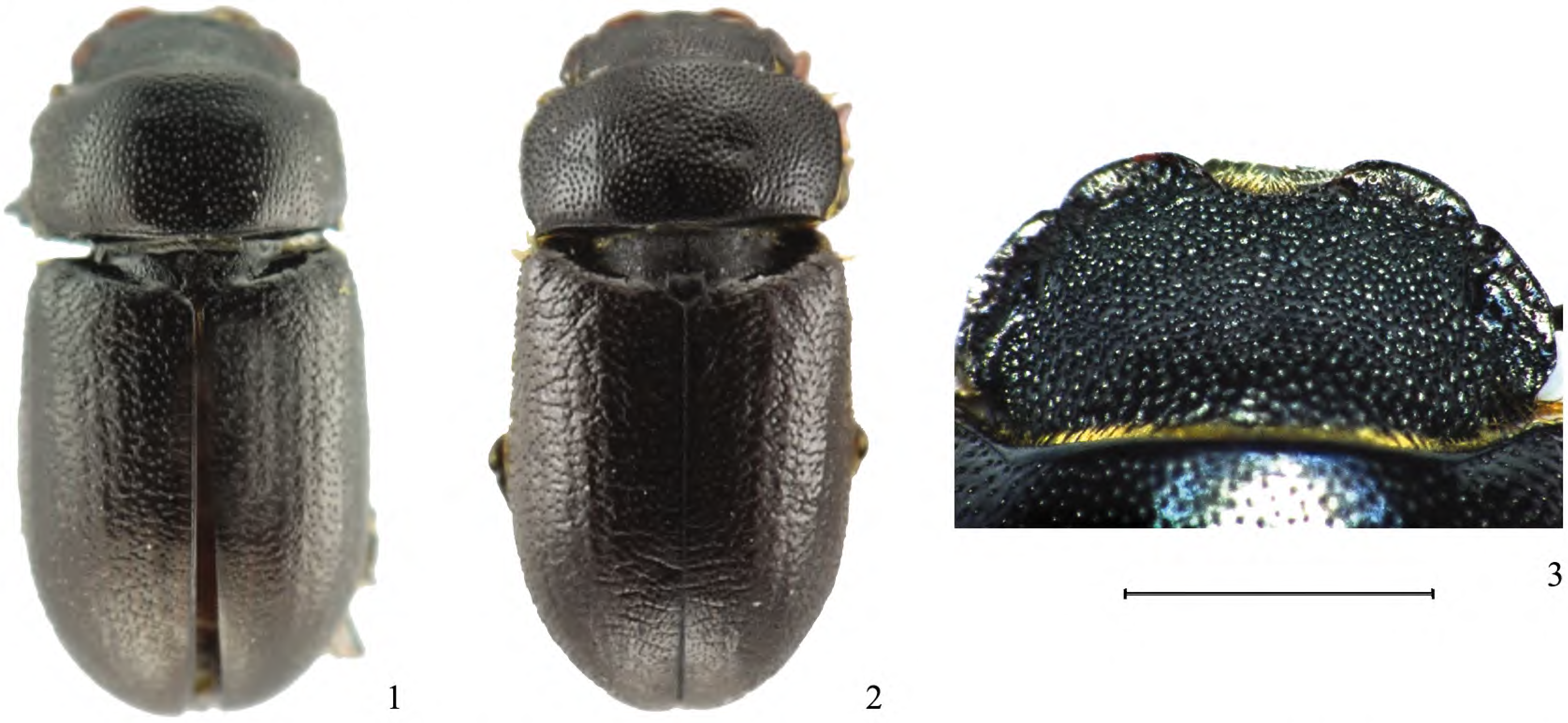
***Cheirodes* (*Pseudanemia*) *zhengi* (Ren & Yu, 1994)** (Fig. 1)

Anemia (*Ammididanemia*) *zhengi* Ren *et* Yu, 1994. *Entomol. Research*, 1: 88-89, figs 1-6; Ren & Yu, 1999: The darkling beetles from deserts and semidesert of China. pp. 182-183, figs 110: 1-6. Type locality: Ningxia, China.

Cheirodes (*Pseudoademia*) *zhengi* (Ren *et* Yu, 1994): Iwan *et al.*, 2008: 257.

Specimen viewed. 1 ♂ (holotype), Wangtaibu, Yongning, Ningxia, 3 July 1989, collected by REN Guo-Dong.

Distribution. China (Northern Ningxia).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Figs 1-3. Adult habitus. 1. *Cheirodes* (*Pseuduademia*) *zhengi* (Ren *et* Yu, 1994). 2-3. *Cheirodes* (*Pseuduademia*) *scalarithoracus* sp. nov. 3. Head. Scale bar = 1 mm.

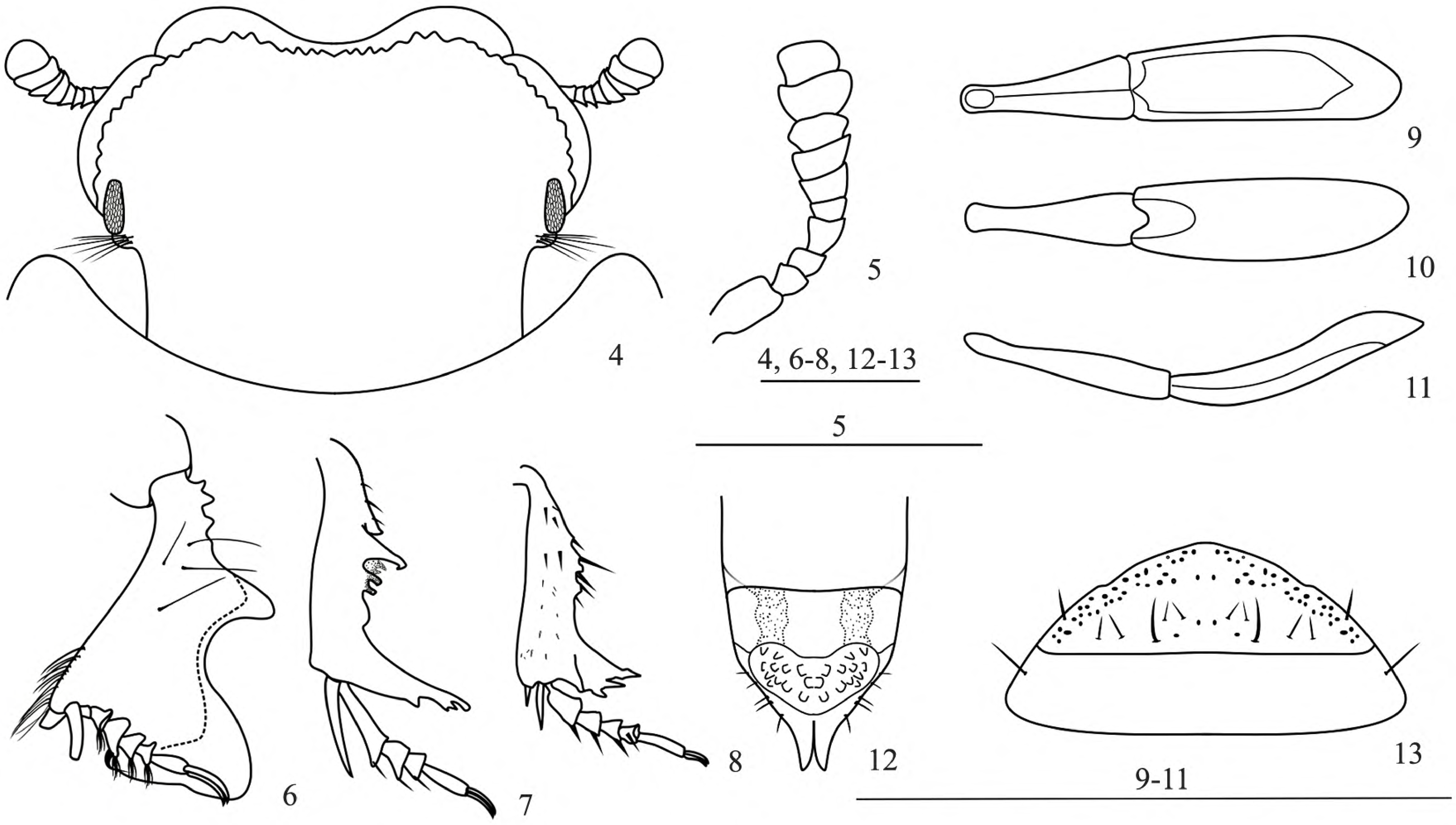
***Cheirodes* (*Pseuduademia*) *scalarithoracus* sp. nov.** (Figs 2-13)

Distribution. China (Alxa of Inner Mongolia).

2 Description of New Species

***Cheirodes* (*Pseuduademia*) *scalarithoracus* sp. nov.** (Figs 2-13)

Body oblong oval, slightly shiny, back black, labrum, underside of body, legs, antenna and palpi chestnut brown. Back of head sloping; labrum narrow, inserted in the deep concave on anterior margin of clypeus, anterior margin slightly curve and with setae, with long hairs on both sides, with short pubescence on posterior half of the back. Anterior margin of the clypeus 4 bends and upturned; pregena expanded, widest in front of the eye; postgena pronouncedly constricted, narrower than the pregena, with a tuft of setae close to the back of the eye; dorsal disc with dense and nearly coarse shallow punctures; compound eyes deeply cut by pregena; antennae in 10 segments, extending backwards to reach the anterior margin of pronotum, with pronouncedly expanding spherical segment. Pronotum near trapezoid, two times wider than length, evenly but distinctly convex; disc punctures big and sparse, shallow round, laterad gradually becoming dense; the anterior margin 2 bends, completely bordered, with hairs in the middle; lateral margin widest before middle, with distinct constriction from front to back, fringe coarse and integrate, with long hairs only in the anterior; basal margin broad and curved, slightly curved inwards in middle, with coarse fringe, with hairs only both sides; anterior angles broad or rounded, posterior ones blunt or straight, angles small and prominent; disc punctures the same as those on head, but larger. Scutellum spearhead-like, not punctuate. Elytra 1.5 times longer than wide, basal margin curved inwards, shoulder slightly protruding, lateral margins parallel, only basal hairy; disc with indistinctive rows of punctures, with irregular transverse wrinkles and sparse rounded punctures between the rows. Femora coarse, with sparse large punctures and long hairs; protibae 1.4 times longer than wide, inner margin weakly emarginated, fimbriate apical; anterior margin apparently wider than length of tarsus, with several weak tooth below median tooth; median tooth of mesotibiae indistinctive, only with several undulant tooth, end tooth broad and large, the back with some long hairs; median tooth of metatibiae protruded, only with several undulant tooth near median tooth, end tooth flat coarse and deeply incised edged, shorter than tarsus, outer margin with some long hairs in middle; protibiae apical spurs dumpy, outer spurs larger than inner ones; meso- and metatibiae apical spurs long thorn-like.



Figs 4 – 13. *Cheirodes* (*Pseuduademia*) *scalarithoracus* sp. nov. 4. Head. 5. Antenna. 6 – 8. Fore-, meso- and metatibiae. 9 – 11. Aedeagus (ventral, dorsal, lateral view). 12. Aedeagus. 13. Pygidium. Scale bars = 1 mm.

Prosternal process spearhead-like, sharply bent, with long setae and sparse punctures all over the surface. Mesosternum raised, with sparse punctures gradually becoming dense from centre towards both sides. Abdominal segments 1 – 3 with sparse setae both sided, segments 4 – 5 with comparatively evident punctures; pygidum arcuate and bordered apically.

Phallobase 1.5 times longer than paramera, the latter basal coarser, gradually becoming thin towards apical part, rounded expanded apically. Stylus of female dagger-like.

Body length 5 – 6 mm, width 2 – 3 mm.

Holotype ♂, China, Bayan Nur, Alxa Qi, Inner Mongolia, 5 Aug. 2010, collected by REN Guo-Dong. Paratypes: 9 ♂♂, 8 ♀♀, same data as holotype; 1 ♂, 5 ♀♀, China, Wuliji, Alxa Zuoqi, Inner Mongolia, 4 Aug. 2010, collected by REN Guo-Dong, YU You-Zhi and JIA Long.

Etymology. Named *scalari-* (trapezoid) and *thoracus* (thorax), for the near trapezoid pronotum of this species.

The main differences between this new species and *Cheirodes* (*Pseuduademia*) *zhengi* (Ren *et* Yu, 1994) are: pronotum of the former near trapezoid, lateral margin without undulant tooth, disc with very dense coarse punctures all over the surface, and pronotum of the latter near square, lateral margin with undulant tooth, disc with sparse punctures; the former only with lateral margin setae prothoracic apically and elytral basally, and the latter with setae nearly on the whole lateral margin; the former meso- and metatibiae with indistinctive median tooth, and the latter's with distinctive ones.

Distribution. China (Alxa, Inner Mongolia).

Biology. This species was collected in the semi-fixed sandy desert of southeastern Badan Jaran Desert. Adults were found under the topsoil at the root of *Caragana* Fabricius and *Artemisia* Linnaeus, distributed all over the area. They were found as large adults cluster. The habitat of this species has an annual precipitation of less than 80 mm, with strong illumination. In summer, the temperature is extremely high, and can reach to 38 – 43 ℃. The temperature of land surface can rise up to about 70 ℃.

Key to the new species and its related species.

1. Lateral base of pronotum straight, lateral margins weak sinuate (Fig. 1) .... ***C.* (*P.*) *zhengi***
   Lateral base of pronotum arched, lateral margins curve but not as above 2
2. Lateral margin of pronotum with 1 arc curve ··· ***C.* (*P.*) *brevicollis***
   Pronotum trapezoid (Figs 2 – 13) ··· ***C.* (*P.*) *scalarithoracus* sp. nov.**

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阿拉善齿足甲属一新种记述（鞘翅目，拟步甲科，小黑甲族）*

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摘　要　记述了采自中国内蒙古阿拉善高原的齿足甲属 *Cheirodes* Gené 1 新种：梯胸齿足甲 *Cheirodes* (*Pseuduademia*) *scalarithoracus* sp. nov.，给出了详细的鉴别特征、中英文描述及形态特征图，简要记述了该种的采集环境和生物学特性。模式标本保存在河北大学博物馆。

梯胸齿足甲，新种 *Cheirodes* (*Pseuduademia*) *scalarithoracus* sp. nov. （图 2 ~ 13）

体长卵形，略有光泽；背面黑色，上唇、体下、足、触角及口须栗褐色。上唇狭小，前缘略弯并具毛，两侧有长毛，背面后半部有短毛。唇基前缘 4 道湾并向上翘起；前颊在眼前方最宽；后颊显缩，眼后方有毛束；盘区密布近于粗糙的稠密浅刻点；复眼被前颊深切。触角 10 节，向后伸达前胸背板前缘，球状部扩展明显。前胸背板近于梯形，宽大于长 2 倍，向上均匀但明显地隆起；盘区刻点疏大浅圆形，向侧区过渡为稠密；前缘 2 湾并有完整饰边，中间有缘毛；侧缘于中部之前最宽，饰边完整，仅前面有长缘毛；基部宽弯，中间稍弯，具饰边，仅两侧有缘毛；前角宽圆，后角直。鞘翅长大于宽 1.5 倍，两侧平行，仅基部有缘毛；盘上刻点行不清晰，行间有不规则横皱纹和稀疏圆刻点。前胫节内缘弱弯，端部有缘毛；前缘显宽于跗节之长，中齿以下有数枚弱齿；中胫节仅有数枚波齿，端齿宽大；后胫节中齿突出，其附近有数枚波齿，端齿扁粗并裂缘，其长度较跗节短，外侧中间有若干长毛。

体长 5 ~ 6 mm；宽 2 ~ 3 mm。

正模 ♂，内蒙古阿拉善旗巴音诺日公，2010-08-05，任国栋采。副模：9 ♂♂，8 ♀♀，记录同正模。副模：1 ♂，5 ♀♀，内蒙古阿拉善左旗乌力吉，2010-08-04，任国栋、于有志、贾龙采。

词源：新种以拉丁词“*scalari*（梯形的）+ *thoracus*（胸部）”命名，表示该种前胸背板呈梯形。

新种与郑氏齿足甲 *Cheirodes* (*Pseuduademia*) *zhengi* (Ren *et* Yu, 1994) 的主要区别是：前者的前胸背板近梯形，侧缘无波齿，整个盘区布十分稠密的粗刻点，而后者的前胸背板近方形，侧缘有波齿，盘区中央的刻点稀疏；前者仅前胸端部和鞘翅基部有侧缘毛，而后者几乎全有侧缘毛；前者的中、后足胫节中齿不明显，而后者则明显。

分布：中国（内蒙古阿拉善）。

关键词　鞘翅目，拟步甲科，小黑甲族，齿足甲属，新种，中国.

中图分类号　Q969.498.2

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